

REMARKS

I. Introduction

Claims 72-154 are pending in the application. No claims are added or canceled herein. Claims 76, 98, 120, 139, 141, 144, 145, 148, 151, and 152 have been amended. Applicant respectfully submits that no new matter has been added. Applicant respectfully requests reconsideration of the pending application in view of the foregoing amendments and the following remarks.

II. Allowable Subject Matter

Applicant appreciates the Examiner's indication of allowable subject matter as to claims 76-78, 98-100, 120-122, 144-147, and 151-154.

III. Objection to the Specification

The Office Action objects to the recitation of a stiffness formula in paragraphs 1228, 1230, and 1265 of the application as published. Specifically, the Office Action asserts that the formula $Z = (\Pi/32) ((OD^4 - ID^4) / OD)$ should instead be $Z = (\theta / 32) ((OD^4 - ID^4) / OD)$. However, Applicant respectfully submits that the formula in the specification is correct and, instead, is recited incorrectly in claims 78, 98, 120, 144, 145, 151, and 152. Accordingly, claims 78, 98, 120, 144, 145, 151, and 152 have been amended to recite the formula stated in the specification. Applicant respectfully requests that the objection to the specification be withdrawn.

III. Claim Rejections

The Examiner asserts that Claims 72-75, 79-97, 101-119, 123-143, 148 and 149 are "anticipated by or, in the alternative" obvious over U.S. Publication 2004/0000430 to King. In asserting the rejections the Examiner does not specifically address any of Applicant's claims, or claim limitations, but merely provides a listing of statements by the Examiner.

Applicant respectfully submits that the Examiner has failed to provide a *prima facie* showing of anticipation or of obviousness. The cited art, by the Examiner's admission, fails to teach or suggest each limitation that is recited in each of the independent claims. Therefore,

Applicant respectfully requests that the rejections be withdrawn and a Notice of Allowance be issued.

Although Applicant submits that a *prima facie* showing of anticipation or obviousness is provided, Applicant respectfully addresses the rejections further below. It is noted that all of the differences between King and Applicant's claims are not discussed herein.

A. Anticipation

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051 (Fed. Cir. 1987). The Examiner states that King fails to teach each limitation recited by each of the independent claims stating: "King does not disclose the plurality of hole sections arranged along a plurality of rows on the output display and the summary of the drillstring arranged along a plurality of columns on the output display." In this instance the Examiner is correct. King fails to teach or suggest this limitation, in part, because King is not addressing the function provided by Applicant. Therefore, by the Examiner's admission, King does not and cannot anticipate Applicant's claims 72-154.

B. Obviousness

Even when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference. *In re Kotzab*, 217 F.3d 1365 (Fed. Cir. 2000).

The U.S. Supreme Court recently held that rigid and mandatory application of the "teaching-suggestion-motivation," or TSM, test is incompatible with its precedents. *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 [82 USPQ2d 1385] (2007). The Court did not, however, discard the TSM test completely; it noted that its precedents show that an invention "composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *Id.*

The Court held that the TSM test must be applied flexibly, and take into account a number of factors "in order to determine whether there was an apparent reason to combine the

known elements in the fashion claimed.” *Id.* at 1740-41. Despite this flexibility, however, the Court stated that “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements in the way the claimed new invention does.” *Id.* “To facilitate review, this analysis should be made explicit.” *Id.* See *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”). (emphasis added). *Id.*

The *KSR* Court noted that obviousness cannot be proven merely by showing that the elements of a claimed device were known in the prior art; it must be shown that those of ordinary skill in the art would have had some “apparent reason to combine the known elements in the fashion claimed.” *Id.* at 1741.

As noted in regard to “anticipation” above, the Examiner admits that King fails to disclose certain express limitations. In particular, the Examiner states: “King does not disclose the plurality of hole sections arranged along a plurality of rows on the output display and the summary of the drillstring arranged along a plurality of columns on the output display.” However, the Examiner, in conclusory terms, states: “It would have been obvious to one having ordinary skill in the art at the time of the invention to arrange the format of the display of the iterative drilling simulator disclosed by King to view information needed to achieve predictable results.”

Applicant respectfully submits, that King fails to suggest the recited limitation as asserted by the Examiner. First, the Examiner addresses only a portion of a limitation and does not provided the asserted motivation for combination in terms of the claim as a whole. Second, the asserted motivation is conclusory, unsupported by the prior art, contrary to King's objectives and teachings, and fails to anticipate Applicant's recited limitations in the “fashioned claimed.” The Examiner fails to identify what “predictable results” are to be achieved. It is clear that King does not need to display the claimed limitations because they are not determinative of what is to be achieved by King. Further, the displayed data that is identified by King, is known data utilized as inputs by King, to determine cost effectiveness of the drilling program and therefore is not a

"generated" summary. Therefore, Applicant respectfully submits that the motivation and reason for combination is not supported by the prior art. Additional failings of the suggested motivation and anticipation of the claim limitations will be noted below in view of the claims as a whole.

In addition to failings of the prior art acknowledged by the Examiner, the cited art fails to teach or suggest other recited limitations, in the manner cited by Applicant. Applicant respectfully addresses the Examiner's rejection in regard to exemplary independent claim 72. Applicant respectfully submits that claims 73-154 are patentable for the reasons set forth in regard to independent claim 72 in addition to the novel and unobvious limitations recited in each of the respective claims.

Independent claim 72 is directed to a method, practiced by a computer system, of well planning in a well planning system in response to input data including wellbore geometry and wellbore trajectory requirements. Claim 72 recites, in part, *"in response to the executing step, generating, by the processor, a summary of a drillstring in each hole section of the wellbore, the summary of said drillstring providing a drillstring design for the wellbore geometry in each hole section of the wellbore"*. King fails to teach or suggest these claimed limitations.

First, the limitation "providing a drillstring design for the wellbore geometry in each hole section of the wellbore" is not taught or suggested by King. Further, the Examiner did not assert that this limitation was disclosed by King. Therefore, Applicant respectfully requests that the anticipation and obviousness rejections be withdrawn.

Second, the Examiner asserts that "King discloses generating a summary of a drillstring (156) in each hole section (120) of the wellbore." (Office Action, page 3). However, King does not teach the limitation as recited in Applicant's claims. Further, King does not generate such summary "in response to the executing step" as recited in claim 72. Referring to Figure 6, King teaches "obtaining" drilling equipment characteristics at step 156. (King, Par. [0091]). The step of obtaining drilling equipment characteristics is performed prior to performing the iterative drilling simulation at step 158. (King, Par. [0092]). King makes it clear that the drilling equipment characteristics are "input" necessary to perform the "drilling simulation." (King, Par. [0092]). Thus, contrary to the Examiner's assertion, King teaches away from "generating . . . a

summary of a drillstring" "in response to the executing step." In short, King discloses a "drilling simulation" and therefore requires the drilling equipment characteristics to perform the drilling simulation teaching away from the Examiner's assertion.

IV. Conclusion

The cited art fails to disclose or suggest each limitation recited in each independent claim in the fashion claimed. Among other limitations, the cited art fails to disclose or suggest (a) "in response to the executing step, generating . . . a summary of a drillstring in each hole section of the wellbore"; (b) "providing a drillstring design for the wellbore geometry in each hole section of the wellbore"; and (c) "recording or displaying . . . at least a portion of said summary of said drillstring in said each hole section of said wellbore."

Applicant respectfully submits that the pending claims are novel and obvious. King fails to teach, or suggest, each of limitations recited in the independent claims in the fashion claimed. Applicant respectfully requests that the rejections be withdrawn and a Notice of Allowance be issued.

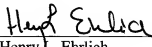
Respectfully submitted,
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January 5, 2008

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